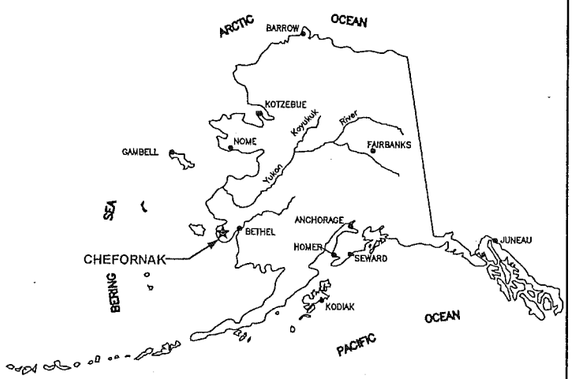
CITY OF CHEFORNAK, ALASKA

2012 PUMP HOUSE REPAIRS

IN COOPERATION WITH STATE OF ALASKA
VILLAGE SAFE WATER AND THE CITY OF
CHEFORNAK, ALASKA

95% ISSUED FOR REVIEW



PROJECT LOCATION

Location Map

CE2 ENGINEERS, INC.
PO BOX 232946 ANCHORAGE, AK 99523 PH: 907-349-1010 FAX: 907-349-1015

STATE OF ALASKA 49TH
PAUL C. WESNER CE-10276
REGISTERED PROFESSIONAL ENGINEER

Consultant

RECORD DRAWING CERTIFICATE

THESE DRAWINGS REFLECT RECORDED INFORMATION OBTAINED DURING CONSTRUCTION.
INFORMATION PROVIDED HEREIN IS ACCURATE TO THE BEST OF MY KNOWLEDGE.

NAME DATE

Construction Foreman	—
FINAL DESIGN	(Date) —
ADEC APPROVAL	(Date)
Construction Period	(From) — (To) —
As-Builts	(Date)

SHEET INDEX

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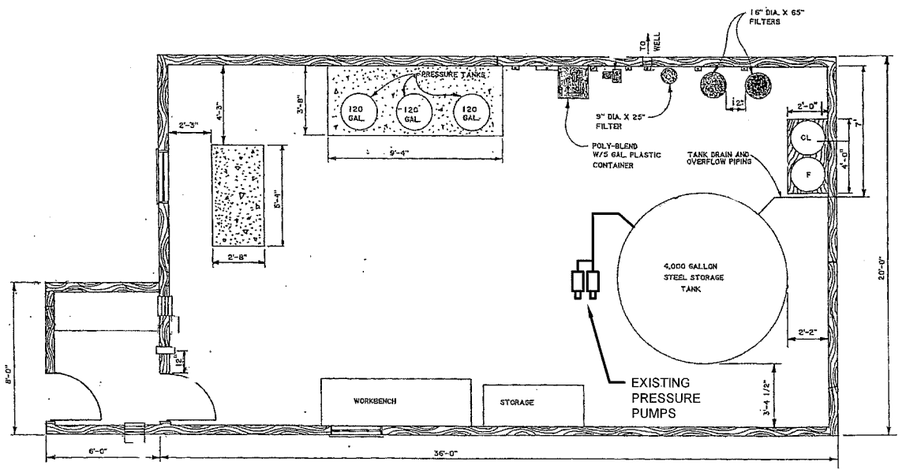


MECHANICAL FLOOR PLAN

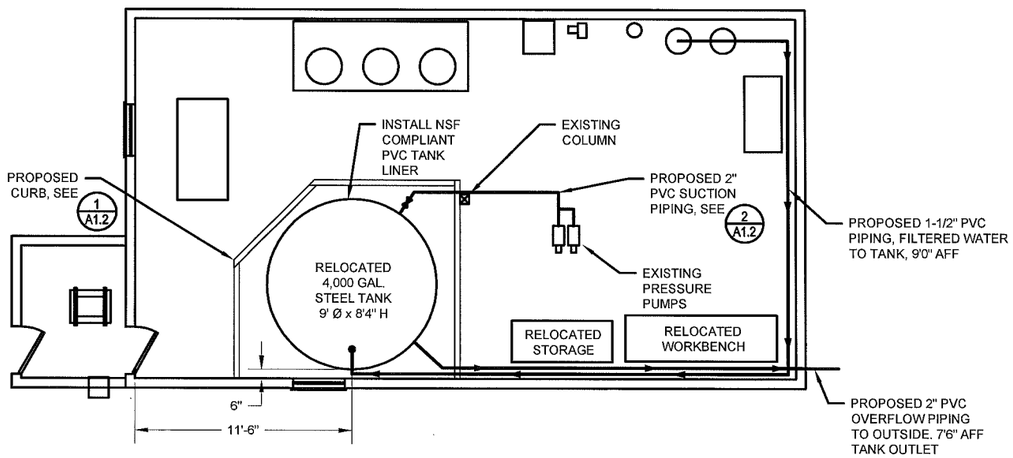
1 / A1.1 EXISTING FLOOR PLAN 1989
SCALE: 1/4" = 1'-0"

SCOPE OF WORK FOR THE WATER PLANT REPAIRS PROJECT

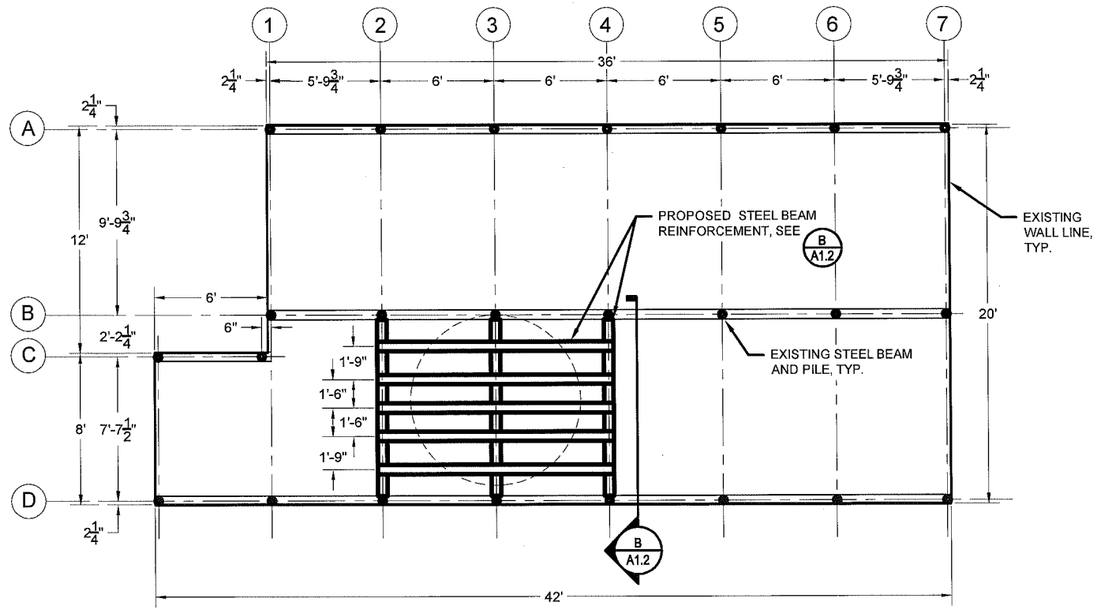
THE EXISTING 4,000 GAL WELDED STEEL WATER STORAGE TANK HAS BEEN LOCATED IN THE EAST END OF THE PUMP HOUSE FOR THIRTY YEARS. DURING THAT TIME, FILTER BACKWASH WATER UNDER THE BUILDING HAS CAUSED SETTLEMENT OF THREE KEY PILES UNDER THE TANK. SWEATING OF THE TANK HAS CAUSED ROT ON THE FLOOR. BOTH OF THESE SITUATIONS HAVE CAUSED THE POSSIBILITY OF FLOOR AND TANK FAILURE. TO PROVIDE A TEMPORARY REMEDY UNTIL THE NEW PUMP HOUSE IS CONSTRUCTED, IT IS PROPOSED THAT THE WATER TANK BE RELOCATED ON A REINFORCED FLOOR.

STEPS IN THE RELOCATION AND REPAIR PROJECT

1. ARRANGE WITH SCHOOL TO HAVE THEIR POTABLE WATER TANKS FULL SO THAT THEY DO NOT HAVE TO DRAW WATER FROM THE WELL AND WATER CIRCULATION SYSTEM.
2. SET UP A TEMPORARY PRESSURE PUMP AND TANK SYSTEM TO PROVIDE PRESSURIZED WATER TO THE EXISTING WATER DISTRIBUTION LOOP DURING THE TANK MOVE.
3. TAKE EXISTING PRESSURE PUMPS OUT OF SERVICE AND MOVE THEM AND THE DISCHARGE PIPING OUT OF THE WAY OF THE TANK MOVE.
4. REINFORCE FLOOR AS SHOWN IN DETAIL 3 THIS SHEET AND DETAIL B SHEET A1.2 WITH STEEL BEAMS WELDED TO EXISTING PILE.
5. REINFORCE FLOOR SURFACE WITH PLYWOOD AS SHOWN IN DETAIL 1 SHEET A1.2. LAY DOWN CONTAINMENT MEMBRANE BUT DO NOT BUILD RIM ASSEMBLY.
6. EMPTY WATER OUT OF THE TANK AND DISCONNECT ALL PIPING CONNECTIONS TO THE TANK. CLEAN OUT RUST, SEDIMENT, AND WIREBRUSH.
7. RELOCATE THE TANK TO THE NEW POSITION SHOWN IN DETAIL 2 THIS SHEET. USE LUMBER AND PIPE ROLLERS TO MOVE THE TANK.
8. CUT HOLES IN TANK FOR TANK OUTLET AND OVERFLOW PIPING. PLUG EXISTING PIPING PENETRATIONS AND USE FOAM INSULATION OR WOOD TO MAKE A SMOOTH SURFACE OVER THE PLUGS AND MANHOLE TO PREVENT CHAFING OF THE PVC LINER.
9. INSTALL NSF-COMPLIANT PVC TANK LINER INTO TANK. CUT HOLES FOR PENETRATIONS AND INSTALL SIDEWALL TANK FITTINGS.
10. INSTALL PVC PUMP SUCTION PIPING AND FITINGS TO THE NEW TANK. RELOCATE ORIGINAL PRESSURE PUMPS AND DISCHARGE MANIFOLD AND APPURTENANCES. INSTALL NEW PVC SUCTION MANIFOLD FOR THESE ORIGINAL PUMPS.
11. INSTALL PVC PIPING FROM WELL AND FILTERS TO TANK. FIT DISCHARGE INTO TOP OF TANK.
12. INSTALL EMERGENCY OVERFLOW PIPING INTO TANK, ROUTE PIPING TO EAST END OF BUILDING AND PENETRATE END WALL.
13. CONSTRUCT CONTAINMENT RIM AS SHOWN IN SECTION A SHEET A1.2.
14. DISINFECT TANK PER AWWA C652-11 METHOD 3 AS FOUND IN SECTION 4.3 OF THE STANDARD. DISCHARGE SUPERCHLORINATED WATER AFTER NEUTRALIZATION WITH SODIUM THIOSULFATE.
15. TAKE TWO BAC-T SAMPLES 30 MINUTES APART AND SEND TO YUKON-KUSKOKWIM HEALTH CORP. (YKHC) FOR TESTING. AFTER THE SUCCESSFUL BAC-T TESTS, THE TANK CAN BE RETURNED TO SERVICE.



2 / A1.1 PROPOSED FLOOR PLAN
SCALE: 1/4" = 1'-0"



3 / A1.1 EXISTING / PROPOSED FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

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CONSTRUCTION RECORD
FIELD BOOK
STAKING
FOREMAN
AS-BUILT
INSPECTOR

STATE OF ALASKA — PAUL C. KENNEY — CE-10276 — REGISTERED PROFESSIONAL ENGINEER

2012 PUMP HOUSE REPAIRS

PUMP HOUSE
FOUNDATION & FLOOR PLAN

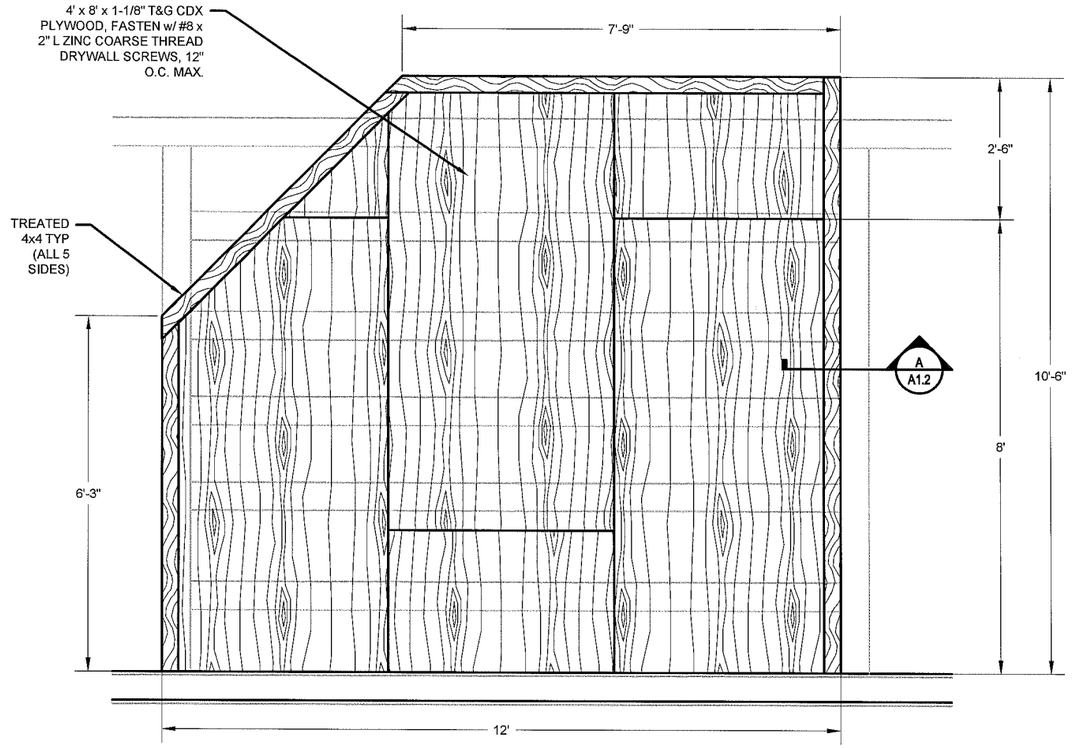
CHEFORNAK, ALASKA

CE2 ENGINEERS, INC.
PO BOX 223348 ANCHORAGE, AK 99523 PH: 907-349-1010 FAX: 907-349-1015

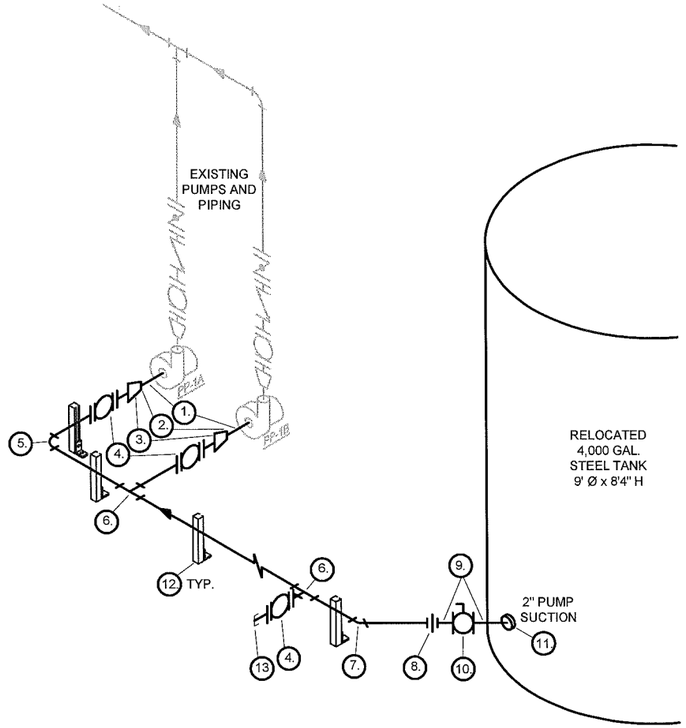
BY	DATE	REVISION

Project No. _____ Date AUG 2012
Designed PCW
Drawn LAW/CM
Approved PCW

Sheet No. A1.1
SHEET _____ OF _____



1 A1.2 PROPOSED FLOOR REINFORCEMENT
SCALE: 3/4" = 1'-0"

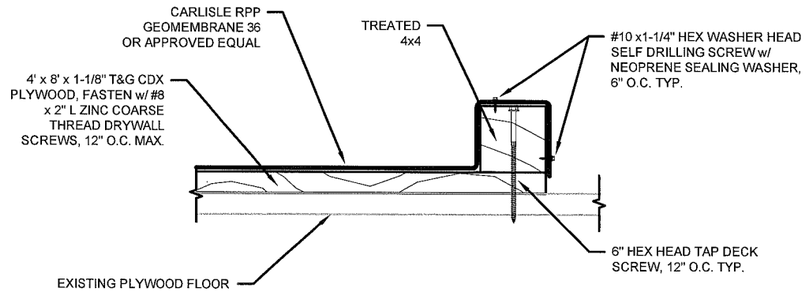


MATERIALS SCHEDULE

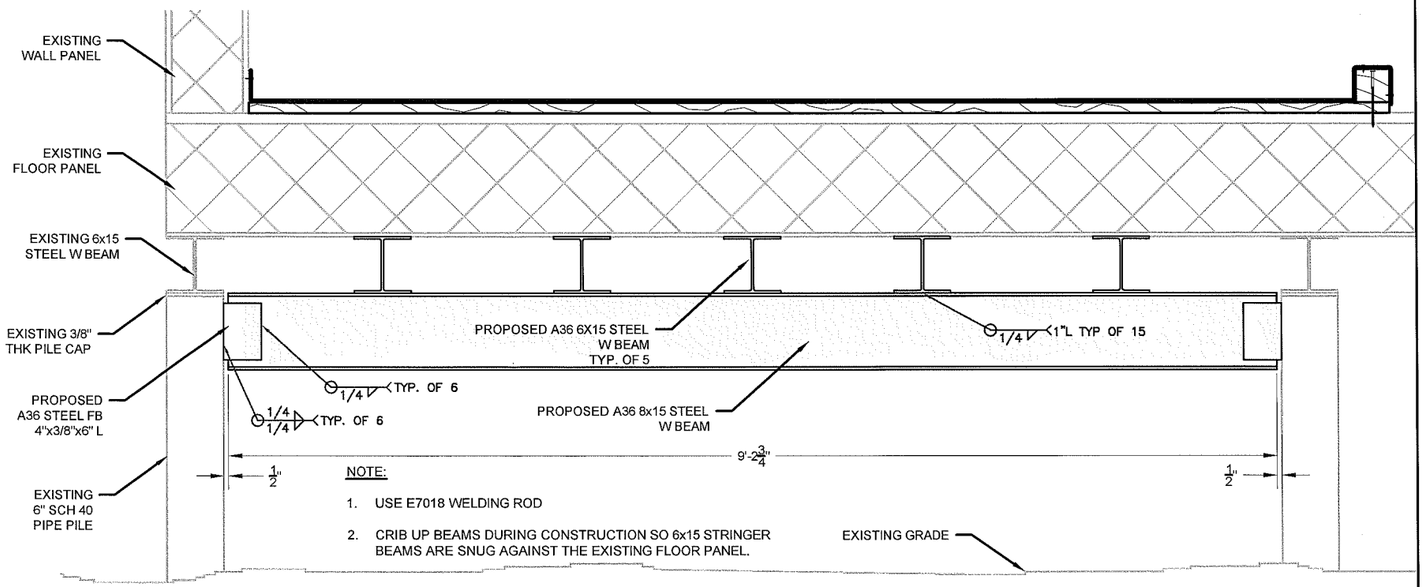
1. 1-1/4"x2-1/2" SCH 40 SS PIPE NIPPLE
2. 1-1/4" SS REINFORCED FEMALE ADAPTER, PVC SOCxSR FIPT, SPEARS #835-012SR
3. 2"x1-1/4" REDUCER COUPLING SOC, PVC SPEARS #829-250
4. 2" TRUE UNION BALL VALVE, VITON SEALS SOCxSOC SPEARS #2339-020
5. 2" PVC 90° EL SOC, SPEARS #806-020
6. 2" PVC TEE SOC, SPEARS #801-020
7. 2" PVC 45° EL, SOC SPEARS #817-020
8. 2" PVC UNION, VITON SEALS , SOCxFIPT SPEARS #859-020
9. 2"x3" L SCH 40 SS NIPPLE MxM
10. 2" BRASS BALL VALVE, FULL PORT, FxF, 600# WOG, RED-WHITE FIGURE 5544F-2" OR EQUAL
11. 2" TANK ADAPTER WITH NEOPRENE GASKET, SOCxF, SPEARS #871-020 OR EQUAL, 2" SUCTION ASSY BUILT FOR TANK w/ 2" PVC AND 2" 90° EL
12. PIPE SUPPORT BASE USING UNISTRUT: P1000T CHANNEL, P2942 POST BASE, 1/2"x1" BOLT, 1/2" SPRING NUT, P117 PIPE CLAMP FOR 2" NOM. PIPE, P2860-10 PLASTIC END CAP
13. 2" PVC SS REINFORCED FEMALE ADAPTOR, SPIG X F, SPEARS#878-020SR; 2" TYPE F CAMLOK ADAPTOR, M CAM X M, POLYPRO, PT COUPLINGS #2770620; 2" TYPE V DUST CAP, PT COUPLINGS #2771120

NOTE: ALL PVC PIPE AND FITTINGS SHALL BE SCHEDULE 80 WHERE APPLICABLE.

2 A1.2 PRESSURE PUMPS PROPOSED PIPING ISOMETRIC
SCALE: NTS



A A1.2 PROPOSED FLOOR CONTAINMENT AND RIM SECTION
SCALE: 3" = 1'-0"



B A1.2 PROPOSED STEEL BEAM REINFORCEMENT
SCALE: 1-1/2" = 1'-0"

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INSPECTOR

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER PAUL G. BROWN CE-16275

2012 PUMP HOUSE REPAIRS
REPAIR DETAILS
CHEFORNAK, ALASKA

CE2 ENGINEERS, INC.
PO BOX 223094 ANCHORAGE, AK 99522 PH: 907-349-1010 FAX: 907-349-1015

REVISION	BY	DATE

Project No. _____ Date AUG 2012
Designed _____ PCW
Drawn _____ LAW/CM
Approved _____ PCW

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SHEET _____ OF _____

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